5

10

20

What is claimed is:

- 1. An oligomer comprising
 - (1) a backbone comprising a polyester, said polyester being prepared by reacting at least the following reactants:
 - (a) one or more polyalkylesters;
 - (b) one or more polyols; and
 - (c) optionally, one or more components selected from the group consisting of polycarboxylic acids, polycarboxylic anhydrides, and hydroxyfunctional monocarboxylic acids;
 - (2) one or more curable groups attached to said backbone; wherein said polyester has a number average molecular weight below 5,000 g/mol.
- 15 2. The oligomer according to claim 1, wherein said one or more polyalkylesters include an aromatic ring.
 - 3. The oligomer according to claim 1, wherein said one or more polyalkylesters include a polyalkylester having two or more groups represented by the following formula (1)

$$CH_3$$
— $(CH_2)_n$ — O — C — (1)

wherein n is 0 or 1.

- 4. The oligomer according to claim 1, wherein at least 50wt% of said reactants is said one or more polyalkylesters, said 50wt% being relative to the combined weight of said polycarboxylic acids, said polycarboxylic acid anhydrides, said hydroxy-functional monocarboxylic acids, and said polyalkylesters.
- The oligomer according to claims 1, wherein said one or more polyols include a C_1 - C_8 polyol.

_ D1220

15

30

- 6. The oligomer according to claim 1, wherein said one or more polyalkylesters include dimethyl terephthalate.
- 7. The oligomer according to claim 1, wherein said one or more polyalkylesters is dimethyl terephthalate.
 - 8. The oligomer according to claim 1, wherein said one or more polyols includes diethylene glycol.
- 10 9. The oligomer according to claim 1, wherein said one or more polyols includes propylene glycol.
 - 10. The oligomer according to claim 1, wherein said one or more curable groups include one or more (meth)acrylate groups.
 - 11. The oligomer according to claim 10, wherein said one or more curable groups are attached to said backbone via urethane groups.
- 12. The oligomer according to claim 1, wherein said oligomer is a polyester urethane diacrylate.
 - 13. The oligomer according claim 1, wherein said polyester is prepared by reacting
 - (a) at least 90 wt%, relative to the combined weight of components (a) and (c), of said polyalkylesters,
- (b) said one or more polyols, and
 - (c) 0-10 wt%, relative to the combined weight of components (a) and (c), of said one or more components selected from the group consisting of polycarboxylic acids, polycarboxylic anhydrides, and hydroxy-functional monocarboxylic acids.

14. The oligomer according to claim 1, wherein said backbone further comprises a polymeric unit other than said polyester.

D1220

25

30

- 15. The oligomer according to claim 1, wherein said number average molecular weight is in the range of 500-1500 g/mol.
- 16. The oligomer according to claim 1, wherein said polyester has a viscosity such that the viscosity of a 3:1 (wt/wt) mixture of the polyester with ethoxylated (4) nonylphenol acrylate is below 2500 cPs at 60°C.
 - 17. The oligomer according to claim 16, wherein said viscosity is at least 500 cPs.
- 10 18. The oligomer according to claim 1, wherein said polyester has an acid number rise of less than 3.0.
 - 19. A composition comprising the oligomer according to claim 1.
- 15 20. The composition of claim 19, further comprising a reactive diluent.
 - 21. The composition according to claim 19, wherein said composition, after cure, exhibits a tensile modulus of at least 500 MPa at 23°C.
- 20 22. The composition according to claim 19, wherein said composition, after cure, exhibits a tensile modulus of at least 1000 MPa at 23°C.
 - 23. The composition according to claim 19, wherein said composition, after cure, exhibits an elongation at break of at least 25% at 23°C.
 - 24. The composition according to claim 19, wherein said composition, after cure, exhibits an elongation at break of at least 40% at 23°C.
 - 25. A process comprising coating a substrate with the composition according to claim 19.
 - 26. The process of claim 25, wherein said substrate is an optical fiber.

10

- 27. A coated optical fiber comprising:
 - (a) an optical fiber; and
 - (b) one or more coatings surrounding said fiber;

wherein at least one of said one or more coatings is obtained by curing a composition according to claim 19.

- 28. A process for making a polyester urethane (meth)acrylate oligomer, comprising:
 - (1) preparing an oligomeric polyester polyol by reacting
 - (a) one or more polyalkylesters; with
 - (b) one or more polyols; and
 - (2) reacting said oligomeric polyester polyol with
 - (c) one or more polyisocyanates; and
 - (d) one or more hydroxyfunctional (meth)acrylates.